FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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Report taken by: Laurel Anderson

Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.
This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by ECMC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27.
This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.
Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATON

Name of Operator: CRESTONE PEAK RESOURCES OPERATING LLC Operator No: 10633

Phone Numbers

Address: 555 17TH STREET SUITE 3700 Phone: (303) 2947864

City: DENVER State: CO Zip: 80202 Mobile: (303) 8293811

Contact Person: Jacob Evans Email: jevans@civiresources.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27661 Initial Form 27 Document #: 403086517

PURPOSE INFORMATION

- [X] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [ ] Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- [X] Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- [ ] Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- [ ] Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- [ ] Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- [ ] Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- [ ] Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- [ ] Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- [ ] Rule 913.g: Changes of Operator.
- [ ] Rule 915.b: Request to leave elevated inorganics in situ.
- [ ] Other:

SITE INFORMATION

Yes Multiple Facilities

Facility Type: PIT Facility ID: 103121 API #: County Name: WELD
Facility Name: Murata 1-19J & 4-19J Latitude: 40.126496 Longitude: -104.826165
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWSW Sec: 19 Twp: 2N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 484555 API #: County Name: WELD
Facility Name: Murata 1-19J Latitude: 40.126496 Longitude: -104.826165
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWSW Sec: 19 Twp: 2N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SP

Most Sensitive Adjacent Land Use Residential

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

High priority habitat within 1/4 mile :
Mule Deer Migration Corridor
Mule Deer Severe Winter Range

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	GROUNDWATER	NA	Laboratory Analysis
Yes	SOILS	Soil Boring Location	Laboratory Analysis

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

A site investigation will be conducted pursuant to COGCC rule 911 at the Murata 1-19J & 4-19J pit. The pit was historically back-filled. Soil samples will be taken
and analyzed per Table 915-1 to ensure that this pit does not require any remediation prior to final reclamation on this location.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Two grab soil sample were collected for analysis by a certified laboratory for TPH C6-36, organics, pH, EC, and SAR.

Proposed Groundwater Sampling

[X] Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

A groundwater sample was collected for analysis by a certified laboratory for BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.

Proposed Surface Water Sampling

[ ] Will surface water samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Additional Investigative Actions

[ ] Additional alternative investigative actions described in attached Site Investigation Plan (summary):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 2

Number of soil samples exceeeding 915-1: 2

NA / ND

-- Highest concentration of TPH (mg/kg): 175.3

-- Highest concentration of SAR: 8.56

Was the areal and vertical extent of soil contamination delineated? No

BTEX > 915-1 No

Approximate areal extent (square feet) 50

Vertical Extent > 915-1 (in feet) 10

Groundwater

Number of groundwater samples collected 1

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 11

Number of groundwater monitoring wells installed 1

Number of groundwater samples exceeding 915-1 0

-- Highest concentration of Benzene (µg/l) 1.2

-- Highest concentration of Toluene (µg/l) 1.2

-- Highest concentration of Ethylbenzene (µg/l) 1.6

-- Highest concentration of Xylene (µg/l) 54

NA Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

Number of surface water samples exceeding 915-1

If surface water is impacted, other agency notification may be required.

OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

☐ Were background samples collected as part of this site investigation?

☐ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards)

Volume of liquid waste (barrels)

☒ Is further site investigation required?

A site assessment will be scheduled to delineate impacted media. Soil boring locations will be completed as monitoring wells. Soil samples will be collected for laboratory analysis for Table 915-1 organics, TPH C6-36, metals, EC, SAR, pH, and boron. Groundwater samples will be collected for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, TDS, chlorides, and sulfates.

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The source will be assessed to laterally and vertically define impacts prior to March 30, 2024. Soil samples will be collected for laboratory analysis of Table 915-1 metals, organics, TPH C6-36, EC, SAR, pH, and boron. Source removal may be scheduled.

REMEDIATION SUMMARY

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

Contingent on assessment results and possible source removal, the estimated timeframe to achieve a no further action will be December 30, 2024.

Soil Remediation Summary

☐ **In Situ**

- Bioremediation (or enhanced bioremediation)
- Chemical oxidation
- Air sparge / Soil vapor extraction
- Natural Attenuation
- Other

☐ **Ex Situ**

- Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards)
  - Name of Licensed Disposal Facility or ECMC Facility ID #
- Excavate and onsite remediation
- Land Treatment

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

Groundwater Remediation Summary

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

One groundwater monitoring well was installed and sampled for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, TDS, sulfates, and chlorides.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] Quarterly [ ] Semi-Annually [ ] Annually [ ] Other

[ ] **Request Alternative Reporting Schedule:**

[ ] Semi-Annually [ ] Annually [ ] Other

Rule 913.e:
After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

Report Type: [ ] Groundwater Monitoring [ ] Land Treatment Progress Report [ ] O&M Report

[ ] Other

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).
If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

The General Liability coverage within the Civitas Resources insurance program includes coverage for bodily injury, property damage, and pollution clean-up costs arising from qualifying pollution events of a sudden and accidental nature subject to a $1,000,000 per occurrence limit and $2,000,000 aggregate limit. The Civitas Resources insurance program includes Excess Liability coverage of $110,000,000 per occurrence and in the aggregate which sits over the sudden and accidental pollution within the General Liability coverage. It is the opinion of Civitas Resources that this total tower of limit is adequate to address the costs of remediation associated with any qualifying pollution event.

Operator anticipates the remaining cost for this project to be: $ 50000

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Volume of E&P Waste (solid) in cubic yards

E&P waste (solid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

If YES:

[ ] Compliant with Rule 913.h.(1).

[ ] Compliant with Rule 913.h.(2).

[ ] Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? No

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards? Yes

Is additional groundwater monitoring to be conducted?

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

RECLAMATION PLAN

RECLAMATION PLANNING

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

If disturbance occurs reclamation will be in accordance with COGCC 1000 series rules.

Is the described reclamation complete? No

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☐ Interim ☐ Final

Did the Surface Owner provide the seed mix?

If YES, does the seed mix comply with local soil conservation district recommendations?

Did the local soil conservation district provide the seed mix?

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation.

Proposed date of completion of Reclamation.

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 02/07/2023

Actual Spill or Release date, or date of discovery.

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/27/2023

Proposed site investigation commencement. 05/24/2023

Proposed completion of site investigation. 03/30/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation.

Proposed date of completion of Remediation.

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

Update, no data attached.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Jacob Evans Title: Environmental Advisor

Submit Date: 01/18/2024 Email: jevans@civiresources.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: Laurel Anderson Date: 04/11/2024

Remediation Project Number: 27661

COA Type	Description
	Due to shallow groundwater (~11' bgs) reported in previously installed soil borings on location - Operator shall: - Comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations - Install monitoring wells (within the spill/release area, cross-gradient, down-gradient, and up-gradient) to properly characterize groundwater pursuant to Rule 915 and determine hydraulic gradient, as required by Rule 915.e.(3)A.ii. All monitoring wells shall be constructed in accordance with the State Engineer's Water Well Construction and Permitting Rules - Submit a minimum of one soil sample for the proposed laboratory analysis from each soil boring advanced during monitoring well installation. The sample collected will be from the interval(s) displaying the highest degree of impact or in the absence of apparent impacts from the estimated historic high water table and/or above soil-groundwater interface - Operator will analyze groundwater samples from all monitoring wells for: benzene, toluene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, total dissolved solids, chloride and sulfate, Table 915-1 Groundwater Parameters for a minimum of four quarterly monitoring events post remediation
	Concentrations of 1-Methylnaphthalene and 2-Methylnaphthalene exceeded the Table 915-1 Groundwater Protection Soil Screening Level and remain in-situ. Therefore, Operator will include 1-Methylnaphthalene and 2-Methylnaphthalene in quarterly groundwater monitoring. There is no numerical standard in WQCC Regulation 41 for 1-Methylnaphthalene or 2-Methylnaphthalene. Therefore, in order for the Operator to achieve project closure pursuant to Rule 913.h.(3), ECMC implements a narrative groundwater quality standard for 1-Methylnaphthalene and 2-Methylnaphthalene. The narrative groundwater quality standards are taken from the EPA Regional Screening Levels (RSLs) for Tapwater, as incorporated by reference in Rule 901.b, tables for Target Risk (“TR”) = 1x10-6 and Target Hazard Quotient (“THQ”)=0.1. The EPA RSL for Tapwater, and resultant narrative groundwater quality standard, for 1-Methylnaphthalene is 1.1 µg/l (0.0011 mg/l). The EPA RSL for Tapwater, and resultant narrative groundwater quality standard, for 2-Methylnaphthalene is 3.6 µg/l (0.0036 mg/l).
	Operator shall conduct a closure investigation in accordance with Rule 911.c. Pit Closure Guidance Document.
	Per COA on Doc #403454847: "Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the subsequent Supplemental Form 27."
4 COAs	

ATTACHMENT LIST

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

Att Doc Num	Name
403659496	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
403750442	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)